

## Proteinase K for NGS

**Product Number: PK05**

### Shipping and Storage

4-30°C in 20% ethanol

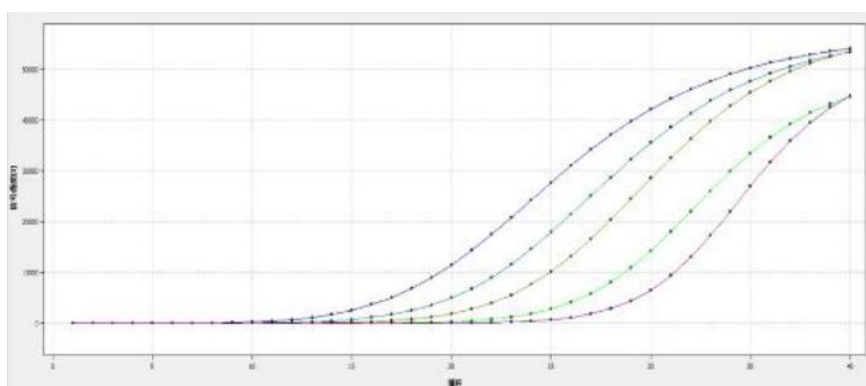
### Specification

100mg;1g;10g;100g

### Description

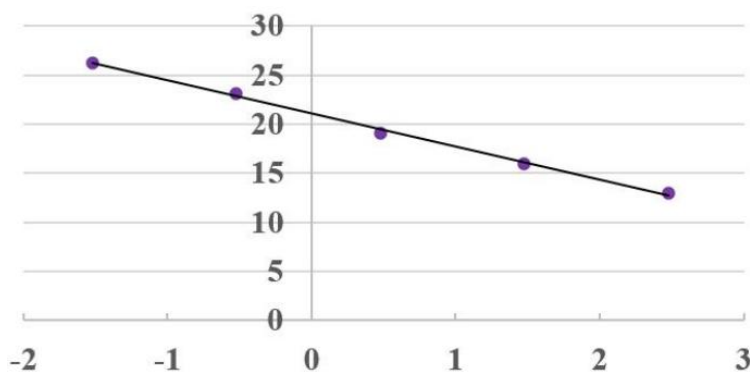
Proteinase K for NGS is a serine protease with high enzyme activity and wide substrate specificity. The enzyme preferentially decomposes ester bonds and peptide bonds adjacent to the C-terminal of hydrophobic amino acids, sulfur-containing amino acids and aromatic amino acids. So, it is often used to degrade proteins into short peptides. Proteinase K for NGS is a typical serine protease with the Asp<sup>39</sup>-His<sup>69</sup>-Ser<sup>224</sup> catalytic triad which is unique to serine proteases, and the catalytic center is surrounded by tow Ca<sup>2+</sup> binding sites for stabilization, maintaining high enzyme activity under a wider range of conditions.

Appearance	White to off-white amorphous powder, lyophilized
Enzyme powder specific activity	≥40U/mg
Protein specific activity	≥5 U/mg
DNase	None detected
RNase	None detected
Nickase	None detected
Bioburden	≤50CFU/g solid
Nucleic acid residue	<5pg/mg solid

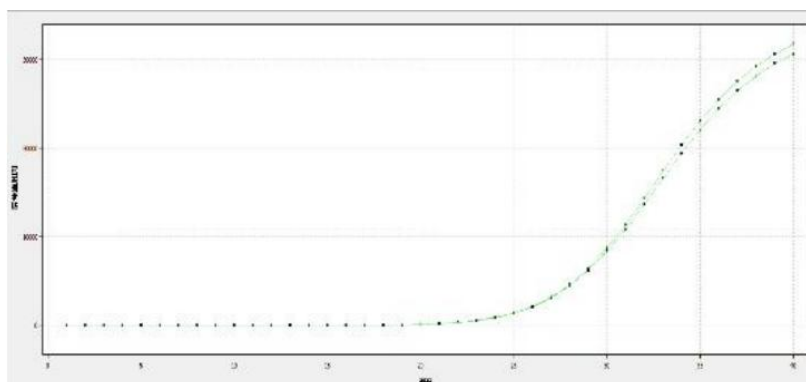


$$y = -3.3755x + 21.107$$

$$R^2 = 0.9977$$



For Research Use Only

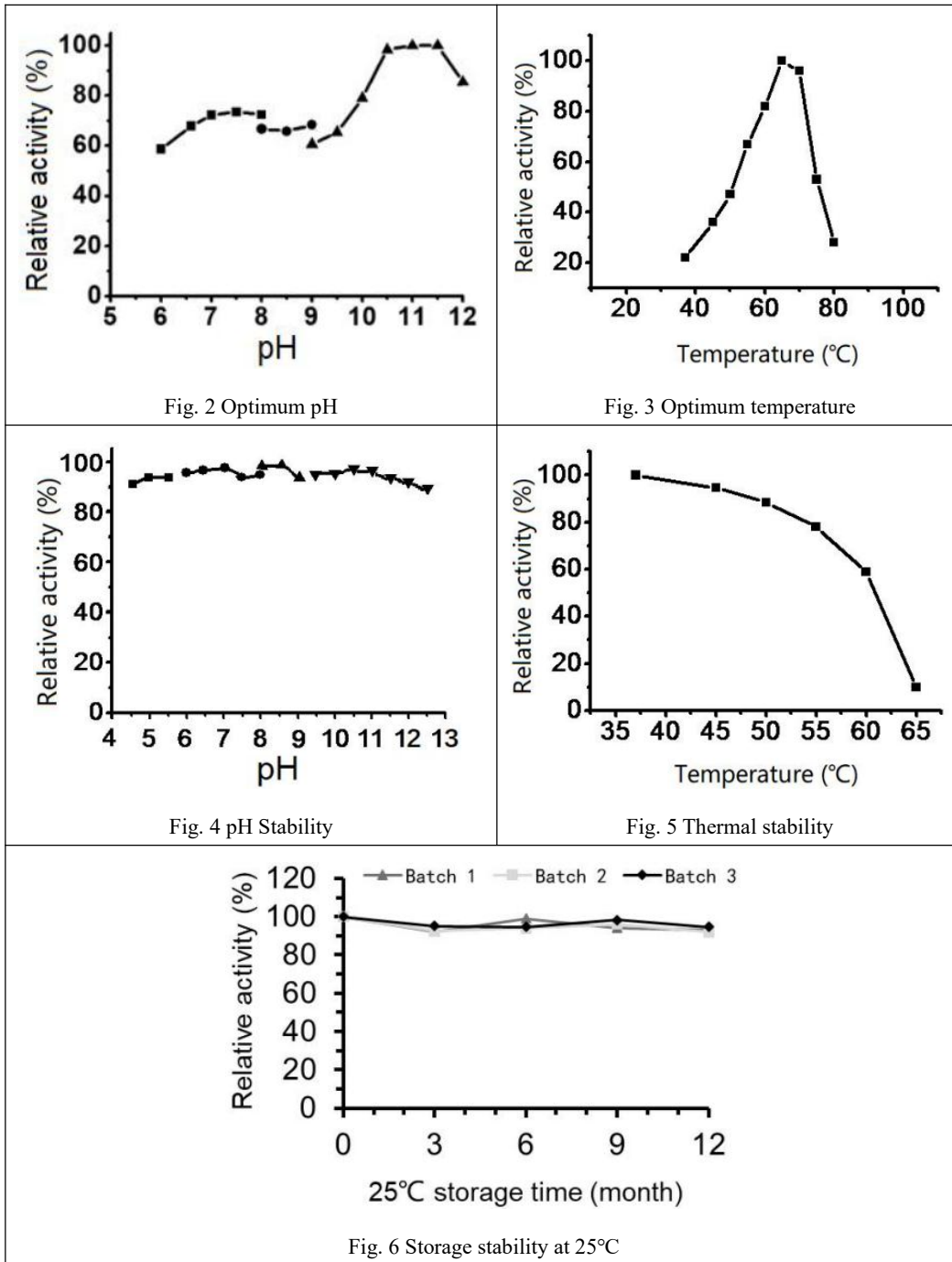


Sample	Ave C <sub>t</sub>	Nucleic Acid Recovery (pg/mg)	Recovery (%)	Total Nucleic Acid (pg/mg)
PRK	24.66	2.23	83%	2.687
PRK+STD2	18.723	126.728	—	—
STD1	12.955	—	—	—
STD2	16			
STD3	19.125			
STD4	23.135			
STD5	26.265			
RNA-Free H <sub>2</sub> O	Undetermined	—	—	—

Fig. 1 DNA residue

**Properties**

Source	Tritirachium album	
Classification	EC 3.4.21.64	
Molecular weight	29 kDa (SDS-PAGE)	
Isoelectric point	7.81	
Optimum pH	7.0-12.0 (All perform high activity)	Fig. 2
Optimum temperature	65 °C	Fig. 3
pH Stability	pH 4.5-12.5 (25 °C, 16 h)	Fig. 4
Thermal stability	Below 50°C (pH 8.0, 30 min)	Fig. 5
Storage stability	Stored at 25°C for 12months	Fig. 6
Activator	SDS, Urea	
Inhibitor	Diisopropylfluorophosphate , benzylsulfonyl fluoride (PMSF)	(DFIP)
Storage condition	Dry powder condition ≤ 8°C valid for 36 months	



**Stability data**

Research data shows that the vitality of dry powder can be maintained above 90% when stored at ≤ 8°C for 36 months; Storage at 25°C for 24 months can maintain vitality above 85%; After dissolving the enzyme powder in HH4503 diluent, it can be stably stored at 2-8 °C for more than 12 months.